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Search scope: US Granted US Applications EP-A EP-B WO JP DE-A DE-C DE-U DE-T GB-A ; Full patent spec.

Years: 1981-2003

Text: (modular or pre-fabricated or prefabricated) adj (room\*)

[no drawing available]

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Stockton, Brian

**Inventor(s):** Stockton, Brian**Application No.** GB9117347 GB, **Filed** 19910810, **A1 Published** 19930428**Abstract:** NotAvailable**Int'l Class:** E04H00112;**Patents Cited:**

→ GB1475284 A

→ US4433880 A

**Patents Citing this One:** No US, EP, or WO patents/search reports have cited this patent.[Go to Claims](#)**Detailed Description**

**MODULAR ROOM (^) STRUCTURE** This invention relates to a **modular room (^)** structure which has been developed primarily, though not exclusively, in connection with a structure whic\_h can be used in the installation or refurbishment of a shop unit.

Modular buildings or prefabricated buildings are, of course, well known. and used to form e.g. mobile homes, temporary classrooms and portable offices. and comprise a unitary structure having a floor, side and end walls and a roof, and which can be readily transported from one site to another.

The invention is concerned with a **modular room (^)** structure which can be installed in any suitable space available in an existing building e.g. a room space suitable for a retail or wholesale shop, and enables the space to be fitted out quickly and reliably, whereas existing shop fitting techniques are very labour intensive and expensive. as much of the fitting-out work has to be carried out on site.

According to the invention there is provided a **modular room (^)** structure for installation in a space

defined in an existing building, said structure comprising:

a pair of opposed side walls to be mounted via their lower ends on a floor of said space; overhead beams rigidly interconnecting the upper ends of the side walls; and.

display shelves mounted on the inner face of at least one of the side walls; whereby the structure can be prefabricated and then installed as a free- standing modular room (^) structure on the floor of the space.

A modular room (^) structure according to the invention therefore is particular suitable for use in the fitting-out of a new shop premise, or a refurbishment of an existing premise, in that the component parts can be manufactured and assembled in a factory readily to a satisfactory standard on a production line type basis, and then the structure can be transported in assembled form for installation, or may be supplied in ready-to- assemble component form for installation on site.

In either event. there will be no need for time consuming cutting-to-fit operations-on site. and the installation is therefore deskilled. thereby reducing the overall costs of the exercise.

The display shelves will be used to display a suitable product appropriate to the particular type of shop. Any other type of display elements e.g. racking may be provided on the inner face of the side wall(s) of the modular structure.

Depending upon the required length of the module, two or more wall panels may be assembled side by side to make-up the required length of each side wall. and preferably upright support posts are arranged along the length of each side wall. and the vertical edges of each panel can be assembled rigidly to a respective side of each post by any suitable means, such as pegs driven into aligned sockets in the posts and the panel edges.

The panels are preferably held together to form a rigid assembly in each side wall by use of tensile elements interconnecting the front and rearmost side wall posts, with the tensile elements running along the outer faces of the panels so as to be concealed from view.

In some circumstances, it may not be necessary to have a ceiling structure for the module. if it is acceptable to rely for visual effects upon the existing ceiling in the building in which the modular structure is installed.

However, to provide a completely self-contained unit, preferably a ceiling structure is formed by ceiling panels which extend between the upper ends of the side walls to fill the ceiling space, in the manner of a false ceiling, but with the structural rigidity of the unit being provided mainly by the overhead beams.

To vary the width of the module, it is only necessary t to provide different lengths of overhead beams. or to provide beams which are adjustable in length to suit e.g. telescopic beams.

A modular room (^) structure according to the invention therefore can be easily installed-without requiring any fixing to the structure of the existing building in which it is installed, and can equally readily be removed if the shop closes down, and refurbishment is required by a new tenant.

One embodiment of modular room (^) structure according to the invention will now be described in detail, by way of example only, with reference to the accompanying drawings, i which:

Figure 1 is a perspective view of a **modular room (^)** structure according to the invention for installation in a space defined in an existing building in order to form shop or display premises:

Figure 2 is a wall of the modular Figure 3 is a detailed perspective view of one side structure; detailed perspective view of the other side wall of the structure; and, Figures 4 to 7 illustrate in more detail assembly components and assembly steps employed in the assembly of the structure.

Referring now to the drawings, a **modular room (^)** structure according to the invention is designated generally by reference 10 and is intended to be installed on a floor of a space defined in an existing building such as a single shop unit in a custom built shopping mall, and with the structure being intended to be mounted as a freestanding structure on the floor of this space.

The modular structure 10 comprises a pair of opposed side walls 11 and 12 which are intended to be mounted via their lower ends on a floor 13 of this space, and overhead beams 14 rigidly interconnect the upper ends of the side walls by being securely fastened to the upper ends of a series of upright side wall support posts 15.

Display shelves are mounted on the inner face of at least one of the side walls 11 and 12, though preferably on both of them. Display shelves 16 are shown in Figure 1. and which will be of dimensions to suit the products which are to be displayed, and all of the components thus far described can be readily manufactured on a production line basis in a factory, and then assembled and transported as a modular structure, or else supplied in flatpack component form for easy assembly on site.

The structure 10 therefore is a pre-fabricated structure which can be installed as a free-standing modular display room structure on the floor 13, and without necessity for any complicated fitting-out operations to be carried out on site. and without any requirements to anchor or attach any structural parts of the structure to the floor or side walls of the existing building.

Structure 10 therefore can readily be used in the initial fitting-out of a new shop premise, or a refurbishment of an existing premise.

As can be seen in Figure 2, the length of each side wall 11 or 12 is built-up from two wall panels 17 which are assembled side by side to make-up the required length, and the vertical edge of each side wall panel 17 is assembled rigidly to a respective side of one of the posts 15 by any suitable means, such as pegs which are driven into aligned sockets or recesses formed in the posts 15 and the mating edges of the panels 17.

The panels 17 are held together to form a rigid assembly by use of tensile elements 18 which interconnect the front and rearmost side wall posts 15, with the elements 18 running along the outer faces of the panels so as to be concealed from view. as shown in Figure 1. Alternatively, the tensile elements could be taken through passages formed in the panels 17.

The overhead beams 14 contribute the main structural strength to the unit, but ceiling panels are preferably provided to fill the ceiling space and thereby define a false ceiling within the building in which the module is installed.

5- If it is required to vary the width of the module, it is only necessary to provide different lengths of overhead beams 14. or to provide beams which are adjustable in length.

Figure 1 to 3 show the main structural components of the modular structure and Figures 4 to 7 show

small component parts used in the assembly, and the successive assembly steps which are involved.

Accordingly, the modular structure of the invention is formed by a row of freestanding frames which are joined by tension wires, and each frame is "located" by a 18mm MDF panel inserted between each frame, and these panels are held in place by steel dowels, with several being located at each end of the panel. A suspended ceiling is located in grooves in the top cross member, and this system allows a complete shop interior, including lighting installations if required, to be assembled as a freestanding unit.

The following detailed assembly steps may take place to carry out the assembly of the structure as shown in the schematic illustration of the various stages in Figures 4 to 7. It is believed that the assembly will be self explanatory from these illustrations, and very detailed description is therefore not necessary. The following general assembly steps take place to complete the assembly:

1. Fit four small "bullets" to the left hand of one board, pointed end out, and starting from the top fit the bullets into the left hand upright; 2. Fit one long bullet to the top hole of the right hand board. Push the upright onto the bullet. Push three more long bullets through the frame into holes in the board. Push home. Further boards can be added to protruding pins. At the end of the fitting, place a right hand end upright onto the pins:
3. To lock the fittings into place, wrap the tension wire around one barrel (A) as shown. Pass the long bolt through the left hand upright. Enter into barrel nut and screw in with half inch protruding through. Pass two ends of tension wire through the centre upright. Pass through to the end upright and cut-off flush with the frame, pass back through the frame and pass through holes in barrel nut (B). Using the long bolt as a lever, wrap the tension wire around the barrel nut as shown. Remove the bolt. Pass the bolt through end frame and screw into barrel nut. Tighten up bolt to tension wire. If necessary, tighten opposite end:
4. Fit front rail to base board, by using two flat head pins through front rail into base boards. Fit two short bullets into left hand end of base board. Using a short bolt, fasten one end block to left hand upright, as shown. Fit two end blocks to centre upright using threaded rod as shown. Push base board bullets into end upright and front rail into end block. Swing centre frame to right to allow front rail to line up on end block. Push frame back to place, positioning end block onto front rail. Push two long bullets through centre frame and into base board. For final end frame, use small bullets in base board to locate into frame; and, finally secure the base in the same way as described in 3 above.

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## Claims (English)

### CLAIMS

1. A **modular room** (^) structure for installation in a space defined in an existing building, said structure comprising: a pair of opposed side walls to be mounted via their lower ends on the floor of said space; overhead beams rigidly interconnecting the upper ends of the side wall; and display shelves mounted on the inner face of at least one of the side walls; whereby the structure can be prefabricated and then installed as a freestanding **modular room** (^) structure on the floor of the space.
2. A structure according to claim 1 wherein a further display element is provided on the inner face of the side wall or walls of the modular structure.

3. A structure according to claim 1 or claim 2 wherein two or more wall panels are assembled side by side to make up the required length of each side wall, and upright support posts are arranged along a length of each side of the wall, wherein the vertical edges of each panel are assembled rigidly to a respective side of each post.
4. A structure according to any one of the preceding claims wherein the panels are held together to form a rigid assembly in each side wall, by use of tensile elements interconnecting the front and rearmost side wall posts, wherein the tensile elements run along the outer faces of the panels so as to be concealed from view.
5. A structure according to any one of the preceding claims wherein a ceiling structure is formed by ceiling panels which extend between the upper ends of the side walls to fill the ceiling space, wherein structural rigidity of the units is provided by the overhead beams.
6. A structure substantially as hereinbefore described with reference to the accompanying drawings.

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